

WE CLAIM:

1. A method for exterminating a pest using an electronic pest trap having a high-voltage rearming circuit with a pair of spaced killing plates, comprising the steps of:

a) placing the trap into an active standby mode in which said circuit is open due to the spaced killing plates;

b) sensing a pest having a known impedance across the pair of killing plates, said pest closing said circuit to effect automatic activation thereof;

c) delivering, by said circuit, a high-voltage pulse train to said killing plates for a time period corresponding to a killing cycle;

d) upon completion of said killing cycle, terminating current flow to said killing plates;

e) checking a stored trigger count to determine whether a sum of said killing cycle and a number of previous killing cycles performed by said circuit has reached a threshold value;

f) initiating, in response to said sum being equal to said threshold value, a visual notification mode indicating manual service of said trap is required or, alternatively, in response to said sum being less than said threshold value, determining whether the known impedance is still sensed across said killing plates and either initiating, in response to continued sensing of said impedance, the visual notification mode or, in an absence of continued sensing of said impedance, rearming the trap to said

active standby mode and repeating steps b) through f) until the threshold value is reached or a pest is exterminated.

2. The method as set forth in claim 1, further comprising, after step d), the step of verifying battery power level and initiating a visual indicator in response to a low battery power level.

3. The method as set forth in claim 1, wherein step c) includes delivering a pulse train to said killing plates of approximately 4000V every 4.5 msec for about 20 seconds.

4. The method as set forth in claim 1, wherein said visual notification mode includes the steps of:

initiating a timer;

activating flash illumination of an LED associated with said trap;

comparing a value kept by said timer to a threshold time period; and

repeating the steps of activating and comparing until said timer value meets said threshold time period and then placing said trap into an inactive sleep mode.

5. The method as set forth in claim 1, wherein said threshold value is three.

6. The method as set forth in claim 1, wherein said threshold time period is 24 hours.

7. An electronic pest trap comprising:

a trap body having a power source and a switch mechanism for placing said trap into an active standby mode;

a pair of spaced killing plates positioned within said trap body; and

a high-voltage automatic rearming circuit coupled to said pair of spaced killing plates, said circuit including,

means for sensing, with said trap in said active standby mode, a pest across the pair of killing plates as a positive load input, a body of said pest closing said circuit to thereby effect automatic activation thereof such that said power source delivers a high-voltage pulse train to said killing plates for a time period corresponding to a killing cycle;

means for terminating current flow to said killing plates upon completion of said killing cycle;

means for checking a stored trigger count, said count indicating a number of previous killing cycles completed by said circuit, to determine whether a sum of said killing cycle and said stored trigger count has reached a threshold value;

means for automatically rearming said circuit in response to said sum being less than said threshold value in combination with a negative load input from said sensing means; and

means for initiating, in response to said sum being equal to said threshold value or to said sum being less than said threshold value in combination with continued receipt of said positive load input from said sensing means, a visual notification mode indicating manual service of said trap is required.

8. The electronic pest trap as set forth in claim 7, wherein said killing cycle includes delivering a pulse train to said killing plates of approximately 4000V every 4.5 msec for about 20 seconds.

9. The electronic pest trap as set forth in claim 7, wherein said threshold value is three.

10. The electronic pest trap as set forth in claim 7, further comprising means for verifying battery power level and for initiating a visual indicator in response to a low battery power level.

11. The electronic pest trap as set forth in claim 10, wherein said visual indicator for low battery power level includes a red LED.

12. The electronic pest trap as set forth in claim 7, wherein said means for initiating a visual indication mode includes a green LED that flashes intermittently.

13. The electronic pest trap as set forth in claim 12, wherein said means for initiating the visual indication mode further includes a timer for determining a duration of said visual indication mode.

14. A high-voltage automatic rearming circuit, coupled to a pair of killing plates which are separated by a space, for use in exterminating a pest, said circuit being open as a result of the space, comprising:

means for sensing a pest across the pair of killing plates as a positive load input, a body of said pest completing said circuit to thereby effect automatic activation thereof such that a high-voltage pulse train is delivered to said killing plates for a time period corresponding to a killing cycle;

means for terminating current flow to said killing plates upon completion of said killing cycle;

means for checking a stored trigger count, said count indicating a number of previous killing cycles completed by said circuit, to determine whether a sum of said killing cycle and said stored trigger count has reached a threshold value;

means for automatically rearming said circuit in response

to said sum being less than said threshold value in combination with a negative load input from said sensing means indicating the circuit is open, said circuit when automatically rearmed being capable of initiating another killing cycle in response to completion of the circuit by a pest across said killing plates; and

means for initiating, in response to said sum being equal to said threshold value or to said sum being less than said threshold value in combination with continued receipt of said positive load input from said sensing means, a visual notification mode in which killing cycle initiation is disabled.

15. The automatic rearming circuit as set forth in claim 14, wherein said circuit includes a power source that delivers a pulse train to said killing plates of approximately 4000V every 4.5 msec for about 20 seconds for each killing cycle.

16. The automatic rearming circuit as set forth in claim 14, wherein said threshold value is three.

17. The automatic rearming circuit as set forth in claim 14, wherein said means for initiating a visual indication mode includes a green LED that flashes intermittently.

18. The automatic rearming circuit as set forth in claim 17, wherein said means for initiating the visual indication mode

further includes a timer for determining a duration of said visual indication mode.